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ABSTRACT

A study was made of background, personality, and other characteristics as related to aptitude test performance among Swedish adults attending evening schools, state secondary schools for adults, and county colleges, and among those pursuing correspondence courses. Test results were significantly related to age, sex, and dropout status (interruption of studies). Differences on personality variables were related to age and sex only. Respondents' choice of type of school was determined most strongly by age and educational background as well as the possibility of working while studying. Among other things, it was also found that adult students achieve results on aptitude (especially verbal) tests superior to results in comparison norm groups. Implications for recruitment and curriculum planning were stated. (Five references and seven tables are included.) (IY)

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Summary of report issued in February, 1970, "Adult Students 1968; Social background, aptitude, personality. Descriptive study of pupils attending evening schools, state secondary schools for adults, county colleges, correspondence college".

1 SOME RESULTS OF SWEDISH RESEARCH ON ADULT PUPILS

The first section of this report contains a comparison of certain results obtained from four pupil surveys carried out in Sweden in 1961, 1967 and 1968 (see references).

Average ages

During the period 1961 - March 1968 the median age of pupils at secondary school level in the evening schools has fallen in the case of both sexes, by about 4 years in the case of men and about 1.5 years in the case of women.

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When comparing conditions covering the entire country before and after the commencement of local government sponsored secondary school education for adults (March 1968 - October 1968) we find that the total SCB material contains a larger proportion of adult pupils aged 31 or older. This can probably be accounted for by the demand for educational facilities for these age categories being to some extant already satisfied in the "older" educational localities.

Sexes

In both the SCB material and in "Adult Students 1968" the proportion of women is somewhat greater.

	Men	Women
March 1968	47.6 %	52.4 %
October 1968	43.9 %	56.1 %

Basic education

When comparing data collected in March 1968 and October 1968 we find that "school certificate" as basic education occurs to a greater extent among women (about 30 %) than among men (about 20 %). On the other hand, the proportion of men with "other education" is somewhat larger (about 22 %) than the proportion of women with "other education" (about 13 %). The distribution of the sexes is much the same in the case of the other basic educational categories.

THE DEPENDENCE OF THE TEST RESULTS ON AGE, SEX AND BASTIC EDUCATION
(Statistic processing with analysis of variance - three factor design)

The results of the analysis of variance with regard to the main effects can be summarized in the following points.

Aptitude variables

1 Age. The youngest age category achieves poorer results in the sub-tests on analogies, opposities and figures.

2 Sex. Male adult pupils achieve better results than female adult pupils in the sub-tests on figures and puzzles.

3 Basic education. Those pupils belonging to the category discontinued studies have produced the best results in the sub-tests on analogies, opposites and puzzles. This indicates, especially in the case of the youngest age categories, that those who report previous discontinuation of studies gave up for reasons other than lack of aptitude.

4 The interplay effects of sex x basic education. In the subtests on analogies and opposites "women with elementary school education" score poor results while "men with elementary school eucation" score good results. These results apply only to our population of adult pupils studying for qualifying examinations since the spring term of 1968.

Personality variables

Differences reflected in statistical material occur between different age categories and between the sexes in respect of the variables neuroticism, nervousness, emotional stability, need of contact and distrust. On the other hand no expressed differences are to be found with regard to personality variables as between the various basic educational categories. The same differences also occur in the standardization material. This means that comparisons of personality variables only make sense when we study individuals of the same age and sex.

THE RELATIONSHIP BETWEEN DIFFERENT VARIABLES AND CHOICE OF TYPE OF SCHOOL

We have observed that significant differences exist between the types of pupils who attend different kinds of schools. These differences are apparent when we examine such variables as age, basic education, economy, civil status and motives for studying. Which of these variables have an initial connection with the choice of type of school become identifiable through the application of the partial correlation technique. We may also assume that, as far as these variables are

concerned, we should have obtained the same information if we had instead made an investigation of these pupils before they had commenced their present studies.

Choosing a particular type of school can result changes for the individual in regard to social factors. These changes naturally bring about different consequences for individuals belonging to different categories in respect of age, civil status, economy and conditions of employment. The strong connection which exists between "type of school" and "occupation side by side with studies" is largely due to the fact that individuals who wish to remain in employment and receive their salaries or have the possibility to look after their homes can only choose evening school or correspondence studies arranged by Hermods or the adult senior secondary school. Compared with those studying at county colleges, this group consists of people who are somewhat older, more of whom are married and whose financial situation and education are superior. They often study in order to achieve promotion in their employment, whereas county college pupils in general intend to change their employment. For this group of people, who are more tied down from the social point of view, a break with their daily environment means something quite different than it does for the generally younger, unmarried and comparatively poorly educated county college group.

The variables which in the first place govern the pupil´s choice of type of school are thus age and education as well as the possibilities of working while studying. In this context it should be noted that strong connections exist between the variables economy and civil status. Between the variable "employment side by side with studies" and the variables economy and civil status clear connections also exist.

The most important factors in determining the choice of type of school are in all probability possibilities of securing employment side by side with studies, basic education and age.

TEST RESULTS OF ADULT PUPILS IN COMPARISON WITH NORM DATA

Aptitude variables

A comparison between norm groups and adult pupil groups in regard to results of WIT III, age and basic education being kept constant

	Norm Group Women (20 yrs)		Adult pupils. Women (-21 yrs)	
	$\bar{x}$ Elem.Sch.	$\bar{x}$ Elem.Sch. Lwr Gram. Sch	$\bar{x}$ Elem Sch.	$\bar{x}$ Lwr Gram. Sch. Comprh.Sch.
Analogies	7.35	12.57	10.29	12.97
Opposites	10.46	14.09	13.53	14.44
Figures	7.20	8.84	8.32	7.94
Puzzles	7.93	9.68	9.21	10.41

	Norm Group Men (20 yrs)		Adult pupils. Men (-21 yrs)	
	n = 248	n = 96	n = 34[x]	n = 22[x]
Analogies	9.81	14.24	13.41	13.66
Opposites	12.02	15.00	15.59	15.16
Figures	7.85	9.63	9.50	9.03
Puzzles	10.29	11.77	12.00	11.09

[x] sub-sample taken from factorial analyses of variance.

It is apparent from the table that adult women pupils having the elementary school as their study background tend, in all four sub-tests, to obtain better results than the norm group women having the elementary school as study background. The same tendency applies to adult men pupils with the same study background.

At lower grammar school or comprehensive school level there is, on the other hand, no discernible tendency for the adult pupils to obtain better results than those of the norm groups.

As may be seen from the above comparison, only differences of average values have been compared. It should also be noted that the groups used for the comparison of men and women adult pupils were small.

Personality variables

With the aid of our analysis it is possible to observe that the adult pupils differ from the norm groups investigated in respect of certain personality variables. The greatest differences are found in the variables nervousness and autonomy and they apply to both male and female pupils.

Among adult men pupils in the age category studied (21 years) higher values also occur with regard to the variables neuroticism, lack of self-confidence and distrust. Discrepancies in the same direction also occur among adult women pupils with regard to the same variables, but the differences are not significant.

In view of the fact that the dispersion values for the adult pupil group are throughout somewhat greater than those of the normal material, this means that the differences noted are caused by a number of individuals having divergent values, not by the group as a whole.

The youngest category of the adult pupils differs from the norm groups with regard to personality factors. At the same time as they need a higher degree of independence, they can exhibit neurotic symptoms in

the form of a certain nervousness and lack of self-confidence. This is most clearly the case when we compare groups having lower grammar school or comprehensive school as basic education.

DIFFERENCES IN TEST RESULTS BETWEEN THE FOUR TYPES OF SCHOOLS

Aptitude variables

Analysis of variance: Women (-21 yrs). Personality variables kept constant

	Ev.Sch ($\bar{x}$ just, N = 86)	Adult 2ndary Sch ($\bar{x}$ just, N = 14)	Co.Coll. Folkh. ($\bar{x}$ just, N = 206)	Hermods ($\bar{x}$ just, N = 12)
Analogies	13.71	15.58	11.47	13.96
Opposites	15.82	16.99	13.72	15.98
Figures	8.99	8.83	8.35	8.97
Puzzles	10.36	10.72	9.36	11.93

$F_{just} = 3.48^{xx}$

$\bar{x}_{just}$ = average values after cc-variance adjustment

Analysis of variance: Men (-21 yrs). Personality variables kept constant

	Ev.Sch ($\bar{x}$ just, N = 49)	Adult 2ndary Sch ($\bar{x}$ just, N = 26)	Co.Coll ($\bar{x}$ just, N = 110)	Hermods ($\bar{x}$ just, N = 20)
Analogies	14.83	13.42	13.40	15.29
Opposites	16.15	16.93	15.23	17.03
Figures	9.15	9.60	9.22	11.66
Puzzles	11.96	10.47	11.02	13.15

$F_{just} = 2.04^{x}$

Summary. Personality variables

We have among other things shown that in the adult pupil group are pupils who have attended elementary school and who have, compared with the norm group, obtained better results than pupils who have attended the lower grammar school or comprehensive school for their basic education.

The differences demonstrated between the types of schools thus apply to the youngest groups, for which consideration has not been paid to the school background in the course of the analysis of variance. Since we know that the county colleges recruit pupils from elementary schools to a greater extent than do the other types of schools, this can mean that the county college values have been somewhat underestimated. Further studies of this problem will be undertaken at a later date.

Personality variables

Analysis of variance: Women (-21 yrs). Aptitude variables kept constant

	Ev.Sch ($N = 86$) $\bar{x}$	Adult 2ndary Sch ($N = 14$) $\bar{x}$	Elem. Sch ($N = 206$) $\bar{x}$	Hermods ($N = 12$) $\bar{x}$
EPI	just	just	just	just
Lie	2.50	3.14	2.54	2.65
Extroversion	13.36	13.56	13.22	13.35
Neuroticism	10.26	10.08	11.19	8.97
SPA				
Nervousness	6.49	6.51	8.05	5.13
Lack of self-confidence	8.49	8.86	9.46	8.61
Emotional stability	9.74	9.26	10.20	10.35
Need of contact	0.62	11.70	10.51	11.11
Distrust	7.05	5.44	6.48	5.53
Autonomy	9.76	7.70	9.44	10.29

$F_{just} = 1.741^{x}$

Analysis of variance: Men (-21 yrs). Aptitude variables kept constant

	Ev.Sch (N = 49)	Adult 2ndary Sch (N = 26)	Elem.Sch (N = 110)	Hermods (N = 20)
EPI	$\bar{x}_{just}$	$\bar{x}_{just}$	$\bar{x}_{just}$	$\bar{x}_{just}$
Lie	1.89	2.39	2.73	2.46
Extroversion	13.53	11.74	13.53	12.17
Neuroticism	8.63	10.36	8.15	9.25
SPA				
Nervousness	5.79	7.35	5.57	6.21
Lack of self-confidence	6.36	7.72	7.78	6.25
Emotional stability	5.72	5.38	5.57	5.38
Need of contact	7.36	7.89	7.90	8.00
Distrust	7.63	7.88	7.77	7.28
Autonomy	9.27	10.19	9.72	11.00

$F_{just} = 1.758^{x}$

In analyzing the test results of the personality variables we have studied the youngest category of men and women adult pupils. We have thereby discovered differences based on statistics between the groups of pupils attending the four types of schools.

When studying the values shown in the tables which refer to EPI we note that pupils studying at the adult senior secondary school have a lower rating in the variable extroversion but a much higher rating in neuroticism, compared with their male colleagues at other types of schools.

Among the women pupils, those who study at county colleges have a high rating in the variable neuroticism, whereas those who study for Hermods have a very low rating in this variable.

A study of the SPA values shown in the table reveals that the same groups differ from one another with regard to the variable nervousness as they did in the case of the variable neuroticism. Other clearly

marked divergences are apparent with regard to the variable autonomy. Both male and female students of Hermods have a high rating in this variable. In the case of the adult secondary school male pupils have a high rating, female pupils a low rating, in this variable.

In the variable lack of self-confidence both male and female pupils attending county colleges and the male pupils at adult secondary schools have higher ratings than average.

It should perhaps be mentioned that the average differences in values are slight and the majority of the individuals in these groups scored values in related variables within one standard deviation of the normal clientéle.

FINAL REMARKS

The results of the statistical processing of the data dealing with pupils attending four different types of school conferring certificates of competence confirm in every case the assumptions previously made when the raw material was initially examined. Among the mass of data collected and processed certain trends are apparent which we should like to take up in these final remarks.

When studying categories of pupils of different age groups we have previously noted that older pupils achieve better results in aptitude tests than younger pupils. In the field of personality direct comparisons cannot be made between different age groups, but the majority of the older pupils seems to be better adjusted than the youngest category of pupils with regard to the variables we investigated.

We have found that adult pupils achieve results in the aptitude tests, especially those of a verbal nature, which are superior to thoses of our norm groups. Of special interest is the fact that the category of pupils having 6-7 years of elementary school as their study background obtain results considerably superior to those of the corresponding

category in the norm groups. In the personality tests the difference between adult pupils and the norm groups is insignificant when we compare groups having the elementary school as educational background.

This can be interpreted in various ways. We can say that adult pupils who have an elementary school education are a wellbalanced group consisting of people who may be assumed to have talent but who, for various reasons, have not found it possible to study. We can even conclude that the forms adult of education investigated only attract those people with a limited education who are convinced that they really can cope with their studies and have the motivation and character to complete adult studies.

When we study adult pupils whose educational background is the lower grammar school or the comprehensive school with corresponding groups in the norm groups, we do not find any differences with regard to the results of the aptitude tests.

On the other hand we have found that this particular group differs from corresponding categories in the norm groups concerning the variables neuroticism, nervousness and autonomy. In practice this implies that we are dealing with pupils in adult education who have an expressed need of independence. At the same time they reveal traits of uncertainty and nervousness. They are striving to obtain a better educational grounding and seem to form a group who have had certain difficulties to adjust to or compete in the traditional type of school they have left.

Those pupils who have interrupted their studies have obtained good results in aptitude tests and the reasons for abandoning their studies are not therefore to be sought in lack of talent. Other educational categories could not be investigated in this respect, because as a result of the division into age groups and by sex, the number of individuals in the sub-groups was too small.

In the youngest category of the adult pupils we find some who show signs of defective personal adjustment in all four types of school. This is especially apparent in the case of young men at the adult

secondary school and young women at county colleges. It is possible that adult education provides an alternative for those who have not managed to be admitted to more advanced educational establishments or who have had problems of adjustment in the ordinary school system. We can, however, note that the existing differences have been caused by certain minor groups unrepresentative of the adult pupil group as a whole.

We have earlier noted that the term adult pupil refers to a very heterogeneous group in regard to age, basic education and social background. The guiding mechanisms underlying the pupils´ choice of type of school are to a considerable extent concerned with the pupils´ educational background, age and possibilities of maintaining their economic status. The last-mentioned factor is of great importance. Older pupils at a certain educational level are unwilling to give up gainful employment and thereby sacrifice their financial standing. This factor probably results in the recruitment of pupils, who believe they are physically and mentally capable of bearing the double burden of gainful employment and studies, to those types of school which offer evening instruction or other study facilities which do not infringe upon gainful employment. Pupils who, in spite of a six or seven year elementary school education as educational background and a pronounced unfamiliarity with the technique of studying, forge ahead on a compressed and rapid course of studies, must compensate for the abovementioned deficiencies by means of aptitude and energy.

Alternative systems of studies must be worked out with regard to rapid and slow rates of studying. Measures designed to help pupils who begin adult studies with a very inadequate basic education and little aptitude in the technique of studying must be put into effect. If this cannot be done, we cannot speak of adult education as a stage on the road to equality.

A curriculum for adult education conferring qualifications, which among other things takes account of the above-mentioned factors, is desirable. The analysis of the aim which must be carried out for this purpose must be places in relation to the distinctive features found among the groups of pupils who wish to obtain qualifications by means of attending instruction for adults.

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